



IMMUNE PRIMING

Immunize mice with imported
fire ant midgut tissue

RNA --> cDNA

Isolate total RNA from spleen of immunized mice,
prepare cDNA by reverse transcription, amplify
by polymerase chain reaction, purify cDNA from gel

ANTIBODY LIBRARY ON SURFACE OF PHAGE

Create phage display library
expressing 10^6 - 10^8 unique
antibody Fab fragments

DUAL MIDGUT SELECTION

Two-step absorptions to yield
phage displaying antibody fragments
specific for midgut of imported fire ants
and not native fire ants

FINAL MICROVILLI SELECTION

Immunohistochemical verification of
Fab specific to imported fire ant
microvilli cells

TESTING

Test phage/Fab for internalization by
microvilli cells of imported fire ants
when administered by feeding

IMPORTED FIRE ANT ERADICATION

Test phage/Fab/gelonin Conjugate for ability
to selectively kill imported fire ants.

Fig. 1